We claim:

- 1 1. A method for rendering, comprising:
- defining a rendering request, the rendering request describing an object to be
- 3 rendered;
- 4 querying a progressive cache to determine a cached element most
- 5 representing a display image satisfying the rendering request;
- sending the cached element to a starting stage of a rendering pipeline for the
- 7 object, the starting stage associated with the cached element; and
- 8 sending an output of the starting stage to an input of a next stage of the
- 9 rendering pipeline, a final stage of the rendering pipeline determining the display
- image satisfying the rendering request.
- 1 2. The method of claim 1 wherein an output of a stage of the rendering pipeline is
- 2 sent to the progressive cache.
- 1 3. The method of claim 1 wherein the progressive cache comprises a set of caches.
- 4. The method of claim 3 wherein a particular cache in the set of caches is a
- 2 preprocessed shape descriptor cache.
- 5. The method of claim 3 wherein a particular cache in the set of caches is a
- 2 distance field cache.

- 1 6. The method of claim 3 wherein a particular cache in the set of caches is a
- 2 distance values cache.
- 7. The method of claim 3 wherein a particular cache in the set of caches is an
- 2 antialiased intensities cache.
- 8. The method of claim 3 wherein a particular cache in the set of caches is a
- 2 colorized image cache.
- 9. The method of claim 6 wherein distance values for a component of a pixel of the
- 2 display image are stored in the distance values cache.
- 1 10. The method of claim 9 wherein the distance values for the component of the
- 2 pixel of the display image are combined prior to determining an antialiased
- 3 intensity for the component of the pixel.
- 1 11. The method of claim 3 wherein data stored in a particular cache in the set of
- 2 caches is compressed.
- 1 12. The method of claim 1 wherein the progressive cache finds a cache element
- 2 using hashing.
- 1 13. The method of claim 3 wherein the progressive cache eliminates least recently
- 2 used cached elements from a particular cache in the set of caches when the
- 3 particular cache is full.

- 1 14. The method of claim 1 wherein the rendering pipeline comprises a sequence of
- 2 stages.
- 1 15. The method of claim 14 wherein a particular stage in the sequence of stages
- ,2 processes the rendering request.
- 1 16. The method of claim 14 wherein a particular stage in the sequence of stages
- 2 determines a preprocessed shape descriptor.
- 1 17. The method of claim 14 wherein a particular stage in the sequence of stages
- 2 determines a distance field.
- 1 18. The method of claim 14 wherein a particular stage in the sequence of stages
- 2 determines distance values.
- 1 19. The method of claim 14 wherein a particular stage in the sequence of stages
- 2 determines antialiased intensities.
- 1 20. The method of claim 14 wherein a particular stage in the sequence of stages
- 2 determines a colorized image.
- 1 21. The method of claim 1 wherein the starting stage associated with the cached
- 2 element is a next stage of a corresponding stage of a cache of the progressive cache
- 3 containing the cached element.

1 22. An apparatus for rendering, comprising: 2 means for querying a progressive cache to determine a cached element most 3 representing a display image satisfying a rendering request for an object: 4 means for sending the cached element to a starting stage of a rendering 5 pipeline for the object, the starting stage associated with the cached element; and 6 means for sending an output of the starting stage to an input of a next stage of the rendering pipeline, a final stage of the rendering pipeline determining the 7 8 display image satisfying the rendering request. 1 23. A system for rendering, comprising: 2 a rendering pipeline including a plurality of stages connected serially to each 3 other so that output of a previous stage provides input to a next stage, and a first 4 stage is configured to receive a rendering request for an object, and a last stage is 5 configured to produce a display image corresponding to the object; 6 a progressive cache including a plurality of caches arranged to store cached 7 elements in a least finished to a most finished order; and 8 a cache controller configured to route a most finished cached element from 9 the progressive cache to a next stage of a corresponding stage of the rendering pipeline and the output of a stage of the rendering pipeline to a corresponding 10

cache of the progressive cache.

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